

CLAIMS

1. A method for constructing a recombinant adenovirus vector having a DNA sequence consisting of an adenovirus genome DNA and an expression cassette,
5 which comprises:

constructing a recombinant cosmid/adenovirus vector by inserting and ligating a cosmid sequence having recombinase recognition sequences at both ends and the expression cassette into a site of the adenovirus genome DNA where E1 region or E1 and E3 regions are deleted;

10 cotransfecting this recombinant cosmid/adenovirus vector and a recombinase-expression vector into a cell line producing adenovirus E1 protein; and

deleting the cosmid vector sequence from the recombinant cosmid/adenovirus vector in the cells.

15 2. The method according to claim 1, wherein the recombinase is Cre recombinase and the recognition sequences thereof are loxP sequences.

20 3. The method according to claim 1, wherein the recombinase is FLP recombinase and the recognition sequences thereof are FRT sequences.

4. ~~The method according to any of claims 1 to 3, wherein the cell line producing adenovirus E1 protein is 293 cell derived from human fetal kidney cells.~~

25 5. A method for constructing a recombinant adenovirus vector having a DNA sequence consisting of an adenovirus genome DNA and an expression cassette, which comprises:

constructing a recombinant cosmid/adenovirus vector by inserting and ligating a cosmid sequence having recombinase recognition sequences at both
30 ends and the expression cassette into a site of the adenovirus genome DNA where

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E1 region or E1 and E3 regions are deleted;

transfecting this recombinant cosmid/adenovirus vector into a cell line producing recombinase and adenovirus E1 protein; and

deleting the cosmid vector sequence from the recombinant
5 cosmid/adenovirus vector in the cells.

6. The method according to claim 5, wherein the recombinase is Cre recombinase and the recognition sequences thereof are loxP sequences.

10 7. The method according to claim 5, wherein the recombinase is FLP recombinase and the recognition sequences thereof are FRT sequences.

15 8. The method according to any of claims 5 to 7, wherein the cell line producing recombinase and adenovirus E1 protein is 293 cell derived from human fetal kidney cells which produces the recombinase.

20 9. A cosmid/adenovirus vector, which comprises a cosmid sequence having recombinase recognition sequences at both ends in a site of the adenovirus genome DNA where E1 region or E1 and E3 regions are deleted.

10. The cosmid/adenovirus vector of claim 9, wherein the recombinase is Cre recombinase and the recognition sequences thereof are loxP sequences.

25 11. The cosmid/adenovirus vector of claim 9, wherein the recombinase is FLP recombinase and the recognition sequences thereof are FRT sequences.

12. A 293 cell line derived from human fetal kidney cells, which produces FLP recombinase.